

# REPORT ON OIL ENGINE MACHINERY.

No. 71094

16 OCT 1946

Received at London Office

Date of writing Report 19... When handed in at Local Office 12.10.46 Port of GLASGOW.

No. in Survey held at GLASGOW. Date, First Survey 30th May, 1946. Last Survey 25th Sept. 1946. Reg. Book. Number of Visits 77

85880 on the Single Screw vessel M.V. "BRITISH KNIGHT" Tons Gross 8629 Net 4999

Built at GOVAN By whom built MESSRS. HARLAND & WOLFF LTD. Yard No. 1307G When built 1946

Engines made at GLASGOW By whom made MESSRS. HARLAND & WOLFF LTD. Engine No. 1307 When made "

Donkey Boilers made at BELFAST By whom made MESSRS. HARLAND & WOLFF LTD. Boiler No. 1307 When made 1946

Brake Horse Power 3200 Owners BRITISH TANKER CO. LTD. Port belonging to LONDON

Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended TANKER MN.697

OIL ENGINES, &c. — Type of Engines Heavy Oil, Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lbs./sq.in. Diameter of cylinders 740 m.m. Length of stroke 1500 m.m. No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 128 lbs./sq.in. Span of bearings, adjacent to the crank, measured from inner edge to inner edge 972 m.m. Is there a bearing between each crank Yes

Revolutions per minute 115 Flywheel dia. 2489 m.m. Weight 2590 Kgs. Means of ignition Compression Kind of fuel used Diesel

Crank Shaft, dia. of journals 505 m.m. as approved Crank pin dia. 505 m.m. Crank webs Mid. length breadth 980 m.m. Thickness parallel to axis 310 m.m.

Flywheel Shaft, diameter as per Rule as approved Intermediate Shafts, diameter as per Rule 17" Thrust Shaft, diameter at collars as fitted 454 m.m.

Tube Shaft, diameter as per Rule as approved Screw Shaft, diameter as fitted 16" Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule as approved Thickness between bushes as fitted 21/32" Is the after end of the liner made watertight in the propeller boss Yes

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No

Propeller, dia. 15'-6" Pitch 12'-0" No. of blades 4 Material Bronze whether moveable No Total developed surface 75 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of lubrication Forced Thickness of cylinder liners 41 m.m. Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers lagged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine No

Bilge Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line No. and size 2 Bilge & Sanitary, each 100 tons/hr. Ballast 170 tons/hr. How driven Steam Steam

Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size 1 off 170 tons/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 1 main engine 100 tons/hr. 1 Stand by

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces 3 off 3 1/2" In pump room -

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 6" Bilge pump; 1 @ 8" Ballast pump.

Are all the bilge suction pipes in holds fitted with strum-boxes Yes Are the bilge suction pipes in the machinery spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the Ship Yes Are they fitted with valves or cocks Both Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes

Are the overboard discharges above or below the deep water line below Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes

What pipes pass through the bunkers None How are they protected -

What pipes pass through the deep tanks - Have they been tested as per Rule -

Are all pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the shaft tunnel watertight none Is it fitted with a watertight door -

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -

Main Air Compressors, No. None No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 280 m.m. stroke 130 m.m. driven by steam engine

Small Auxiliary Air Compressors, No. none No. of stages - diameters - stroke - driven by -

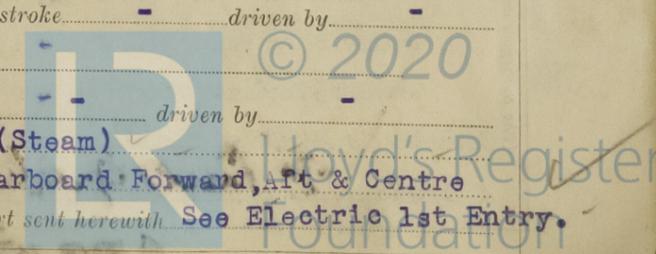
What provision is made for first charging the air receivers 2 steam driven compressors

Scavenging Air Pumps, No. none diameter - stroke - driven by -

Auxiliary Engines crank shafts, diameter as per Rule - No. 3 (Steam) Position Starboard Forward, Aft & Centre

Have the auxiliary engines been constructed under special survey Yes Is a report sent herewith See Electric 1st Entry.

001559-002567-0128



**AIR RECEIVERS:**—Have they been made under survey Yes ✓ State No. of report or certificate 2.1667  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes ✓  
 Can the internal surfaces of the receivers be examined and cleaned Yes ✓ Is a drain fitted at the lowest part of each receiver Yes ✓  
 Injection Air Receivers, No. None Cubic capacity of each - Internal diameter - thickness -  
 Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -  
 Starting Air Receivers, No. 2 ✓ Total cubic capacity 800 cub.ft. Internal diameter 5'-0.5/16" thickness 1.1/32" ✓  
 Seamless, lap welded or riveted longitudinal joint all welded Material steel Range of tensile strength 26/33 Working pressure 361.51  
 by Rules 356 lbs  
 Actual Inc

**IS A DONKEY BOILER FITTED** Yes ✓ If so, is a report now forwarded See Belfast Report No. 14188 ✓  
 Is the donkey boiler intended to be used for domestic purposes only No ✓  
**PLANS.** Are approved plans forwarded herewith for shafting 7.1.44. 31.45 Receivers 28.12.44. Separate fuel tanks 14.3  
 (If not, state date of approval) 23.6.45  
 Donkey boilers - General pumping arrangements 23.1.46. Pumping arrangements in machinery space 23.1.46.  
 Oil fuel burning arrangements 22.5.46.

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes. ✓  
 State the principal additional spare gear supplied as per attached list.

**FOR HARLAND AND WOLFF, LIMITED**

The foregoing is a correct description, Wm J Wright and the particulars of the installation as fitted are as approved for torsional vibration characteristics".  
 Manufacturer

Dates of Survey while building  
 During progress of work in shops - 1945 May 30, Jun 2, Aug 13, Sep 3, Nov 29, Dec 17, 1946 Jan 9, 17, 27, Feb 11, 18, 24, Mar 4, 7, 13, 18, 20, 24, 28, Apr 1, 2, 8, 11, 15, 18, 22, 25, 29, May 2, 6, 9, 12, 16, 19, 23, 26, 30, Jun 3, 6, 10, 13, 17, 19, 24, 26, Jul 1, 3, 25, 30, Aug 2, 5, 7, 8, 14, 19, 21, 26, Sep 9, 11, 16, 18, 19, 25  
 During erection on board vessel - 1945 May 30, Jun 2, Aug 13, Sep 3, Nov 29, Dec 17, 1946 Jan 9, 17, 27, Feb 11, 18, 24, Mar 4, 7, 13, 18, 20, 24, 28, Apr 1, 2, 8, 11, 15, 18, 22, 25, 29, May 2, 6, 9, 12, 16, 19, 23, 26, 30, Jun 3, 6, 10, 13, 17, 19, 24, 26, Jul 1, 3, 25, 30, Aug 2, 5, 7, 8, 14, 19, 21, 26, Sep 9, 11, 16, 18, 19, 25  
 Total No. of visits 77

Dates of examination of principal parts—Cylinders 1.5.46. Covers 1.5.46. Pistons 29.4.46. Rods 18.3.46. Connecting rods 18.3.46.  
 Crank shaft 18.2.46. Flywheel shaft 6.5.46. Thrust shaft 18.2.46. Intermediate shafts 6.3.46. Tube shaft -  
 Screw shaft 6.3.46. Propeller 6.5.46. Stern tube 13.5.46. Engine scuffings 2.5.46. Bolts holding down bolts 9.8.46.  
 Completion of fitting sea connections 2.5.46. Completion of pumping arrangements 18.9.46. Engines tried under working conditions 25.9.46.  
 Crank shaft, material Steel Identification mark LLOYD'S G.O. 1307 Flywheel shaft, material - Identification mark -  
 Thrust shaft, material Steel Identification mark LLOYD'S S.2269 Intermediate shafts, material Steel Identification mark LLOYD'S No. S.2512  
 Tube shaft, material - Identification mark - Screw shaft, material Steel Identification mark LLOYD'S No. S.2513  
 Identification marks on air receivers LLOYD'S TEST No. 353 LLOYD'S TEST No. 354  
584 lbs. 584 lbs.  
W.P. 356 lbs. W.P. 356 lbs.  
G.J.T. 28.5.46. G.J.T. 28.5.46.

Is the flash point of the oil to be used over 150°F Yes. ✓  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes. ✓  
 Description of fire extinguishing apparatus fitted Water, steam and foamite. ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - If so, have the requirements of the Rules been complied with -  
 If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with -  
 Is this machinery duplicate of a previous case Yes ✓ If so, state name of vessel M.V. "BRITISH MIGHT"

**General Remarks** (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under Special Survey and in accordance with the approved plans and the Rules of this Society. The material and workmanship are good. The machinery has been efficiently secured in position on board the vessel and afterwards tried under full working conditions with satisfactory results. The machinery is eligible in my opinion to be classed in the Register Book with the notation † L.M.C. 9,46 C.L. 2 D.B. W.P. 150 lbs/sq.inch.

**NOTE:** Notice No.1803. Torsional vibration characteristics were approved in a letter issued by Belfast Surveyors dated 10.3.45, addressed to Messrs. Harland & Wolff, Ltd., Belfast.

The amount of Entry Fee ... £ 8 : -  
 Special ... £ 98 : 10  
 Donkey Boiler Fee... £ - : -  
 Travelling Expenses (if any) £ - : -  
 When applied for 15 OCT 1946  
 When received 19



GLASGOW

Certificate (if required) to be sent to  
 The Surveyors are requested not to write on or below the space for Committee's Minute.

Committee's Minute  
 Assigned Wm J Wright  
203 150 lb